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ABSTRACT

The conceptual model for institutional change presented in this report was developed within the context of the University of Hawaii's Native Hawaiian Vocational Education Project (NHVEP), a systemwide initiative for increasing minority student persistence at community colleges. Chapter 1 discusses the problem of low retention among Native Hawaiian students and the need for institutional change to improve recruitment and retention services. After chapter 2 provides a review of the literature on institutional change, chapter 3 outlines the methodology used to conduct a case-study review of the NHVEP. Chapter 4 presents the case study itself, describing the background, objectives, activities, and organizational dynamics of the NHVEP. This chapter includes information on the demographics and academic participation and performance of Native Hawaiians, the impetus for the project, and a status report on the project. Finally, chapter 5 offers conclusions regarding: (1) methods used by various types of institutions to initiate change; (2) the ways in which significant events, philosophies, and beliefs can bring about meaningful change; (3) the impact of special programs in general and the NHVEP in particular as catalysts for change; (4) general approaches taken by colleges and universities to respond to high attrition and low student retention; (5) research findings regarding the transformational or evolutionary nature of change; and (6) the university's receptiveness to a statement on institutional change. A 199-item bibliography on student retention and an annotated bibliography listing 71 of the items are appended. (AAC)

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STUDENT RETENTION: CATALYST FOR INSTITUTIONAL CHANGE

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A Research Report Prepared in Conjunction With The
Native Hawaiian Vocational Education Project
University of Hawaii Community Colleges
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CHAPTER ONE

Introduction

On hundreds of college and university campuses across the nation, an increasing interest is developing in the issue of student retention. A by-product of decades of exploding student enrollments characterized by the 1960s and 70s, attention has turned toward improving student success. Many questions currently confront higher education. Two which have constantly challenged colleges and universities, concern methods of increasing access to college, and measures for ensuring quality of learning. Indeed, the process by which institutions respond to these two antithetical positions, will have important impact on their ability to increase student retention. In addition to the challenges of providing increased access and measuring quality, institutions have become particularly interested in increasing student persistence over time, and in generating greater student success in terms of program completion.

Historically, Hispanics, Blacks and Native Americans have long remained underrepresented in higher education. Largely as a result of deliberate policies enacted during the 1960s, community colleges have since become the primary access point for urban minorities. While slight gains have been achieved in associate degree performance, progress toward the completion of baccalaureate degrees remains negligible (Wilson, 1986).

The problem of low degree achievement is complicated by the alarmingly high attrition rates among Blacks, Hispanics, and Native Americans. As a result of nationwide concern, increased efforts have been made to reduce the dropout rate, while at the same time increasing the likelihood of students' succeeding to degree or goal completion.

Numerous research projects and theoretical models have been developed at major research universities and elsewhere to explain the process of attrition, and the factors leading to the increased persistence of students over time. Alexander Astin of the University of California at Los Angeles is one of several leading scholars who has been at the forefront of dropout research for two decades. His most well known works include, Predicting Academic Performance in College: Selectivity Data for 2,300 American Colleges (1971), College Dropouts: A National Profile (1972), Preventing Students From Dropping Out (1975), Four Critical Years: Effects of College on Beliefs, Attitudes, and Knowledge (1978), Minorities in American Higher Education (1985), Achieving Excellence in Education (1987).

Other noted scholars include Ernest Pascarella of the University of Illinois, Patrick Terenzini of the University of Georgia, and Vincent Tinto of Syracuse University. Tinto's major contribution to understanding the dropout phenomena appeared in 1975, Dropout From Higher Education: A Theoretical Synthesis of Recent Research.

As a result of extensive theoretical development colleges and universities have initiated numerous activities to stem the rising tide of student attrition. At UCLA the Freshman Orientation Program has become a successful method for increasing student success, with an emphasis on a positive orientation experience for all incoming Freshmen. The Puente Project at Evergreen Community College in California, is an exemplary model of mentoring and peer advising which focuses on a targeted population. These are two of dozens of retention programs currently implemented at many institutions of higher learning.

Statement of the Problem

The issue of low educational achievement among ethnic minorities in the state of Hawai'i has attracted increased attention in recent years. While the enrollments of the four main ethnic groups in the University of Hawai'i system appear relatively stable, the access and success of Native Hawaiian students has generated expressed concern among both internal and external university constituents. Public responses have taken several forms.

In the state legislature, support has been given to identify the barriers to educational success of minority students (SR No.114, S.D. 1, A Study to Improve Access to Public Higher Education Programs and Support Services for Minority Students).

An institution-based concern over the continued support for Hawaiian language and culture culminated in the widely circulated report of the University of Hawai'i Hawaiian Studies Task Force, KA'U (1986).

In 1984, the Carl D. Perkins Vocational Education Act was enacted, making Native Hawaiians eligible for the first time to receive federal funds to increase their representation in vocational training and services. Under the aegis of Alu Like, Inc. funds are now available for this purpose.

In 1986, the American Council on Education issued Minorities in Higher Education, an update on the status of minorities in accessing and succeeding in higher education. Among other issues the report clearly emphasized its view that "the problem of increasing access and retention of minority students remains unsolved and unaddressed in most states" (ACE,1986).

In response to local community interest in educational issues, two recent reports have identified the severity of education and health-related issues among Hawaiians. E OLA MAU highlighted the health needs and concerns of Native

Hawaiians. In 1983, Kamehameha Schools completed a comprehensive and exhaustive assessment on the educational needs existing in the community (NHEAP,1983).

In recognition of its role in increasing student success the University of Hawai'i Community Colleges recently completed a report on the status of programs and services currently available to Native Hawaiian students. An Advisory Council developed a series of recommendations to the Chancellor, in which specific strategies and activities were highlighted, ultimately leading to increased participation and success (NHCCAC/UHCC, 1988).

From past experience reports of this nature have not had the intended impact in either our institutions or the community. In anticipation of further developments in the community colleges, the recommendations were made proactive, intended for possible implementation at a later point. Based on discussions with Alu Like, Inc. representatives and administrative staff of the Office of the Chancellor for Community Colleges a multi-year project was initiated in October, 1987, as a vehicle for implementing the recommendations contained in the report. In addition, it was anticipated that the Native Hawaiian Vocational Education Project would successfully effect the increase of enrollments, retention, and graduation of Native Hawaiian students. On the basis of the experience gained from assisting these students, it is the intention of the community colleges to better serve the needs of all its enrolled students. A long term goal of the project is to serve as a catalyst for institutional change.

Significance of the Problem

Educational institutions constantly seek rejuvenation and change. Understanding the necessity for change and the process by which it occurs is often perplexing. The interest, commitment and ability of an educational

system to modify itself is regarded as a measure of institutional quality in the views of both internal and external constituents.

The University of Hawai'i Community Colleges are committed to improving the delivery of educational services and experiences to the community. In July, 1984, the University of Hawai'i completed its action plan for the next decade. Entitled "A Strategy for Academic Quality, 1985-95", the strategic plan articulated the future course for the University of Hawai'i system. The first priority of the plan calls for specific activities focused on "Serving the State of Hawai'i". In terms of budget allocations, each unit of the university system is obligated to address three broad areas of activity; outreach and access, 2) Special Student Populations and Needs, and 3) High School Relations and College Transition.

Under these areas of activity specific agenda items target innovative methods for reaching a broader student clientele. For example, during the next Biennium budget cycle, 1989-91, each of the community college campus is charged to "develop a weekend/evening program to expand course offerings to accommodate non-traditional learners via a modular, competency-based delivery system, to include appropriate counseling, tutorial, library and other ancillary services" (UH Agenda for Action, p.3). A second activity will seek to "expand the Community College to UH-Manoa Transfer Program for Hawaiian and Filipino students" (UH Agenda for Action, p.4).

In the area of Special Student Populations and Needs, the University of Hawai'i at Manoa has committed units of its campus to "improve minority student recruitment and retention services, especially Hawaiians, Filipinos, Samoans, other Pacific Islanders and non-traditional students. Insure conditions that facilitate success in meeting educational goals" (UH Agenda for Action, p.5).

A further example of initiatives planned for the immediate two-year funding cycle include the offering of "subsidized summer and special programs for academically underprepared students and adults on a programmatic basis, to insure their prospects for success. Activities include early assessment and advisement and provision of relevant support services to expedite early entry into college level courses in the regular school year" (UH Agenda for Action, p.5). Although the University of Hawai'i Strategic Plan advocates measurable progress in terms of serving resident needs, program quality, and adapting to scientific and technological change, there clearly exists a need for better understanding of the dynamics of institutional change. The University of Hawai'i Community Colleges are committed to developing improved capabilities in meeting diverse students' needs.

In the context of the Native Hawaiian Vocational Education Project, a series of questions has been developed to guide both the structure and scope of the discussion. As an institution-based initiative serving the education-related needs of Native Hawaiian students, there is interest in understanding the process of institutional renewal or change.

The questions are outlined as follows:

1) How do single institutions, modest-sized or even large-scale systems initiate change?

2) What significant events, philosophies, beliefs bring about meaningful change?

3) What impact do special programs have as a catalyst for institutional change?

4) What is the potential impact of the Native Hawaiian Vocational Project as a catalyst for institutional change?

5) What generally has been the approach of colleges and universities in response to high attrition and student retention?

6) Is there research to support the view that change is transformational or evolutionary?

7) How receptive might units of the University of Hawai'i be to a statement on the significance of institutional change?

8) What are the implications of these and other questions on the decision making behaviors of administrators, faculty, student support professionals and students?

Purpose of the Paper

The primary purpose of this paper is to describe a conceptual model for initiating institutional change within the University of Hawai'i Community Colleges. The context for drawing this information together is the Native Hawaiian Vocational Education Project, a systemwide initiative for increasing student retention. The author will describe the concept from which the project was conceived, the formative stages of its development, progress made to date in accomplishing the objectives of the project, and finally, implications for potential change. An effort will be made to highlight the organizational and campus-level dynamics in order to understand the management of the project. Rather than being written as an evaluation of the Native Hawaiian Vocational Education Project, the paper is intended to point out features of a special project as a catalyst for enhancing institutional change.

Chapter Two highlights important writings on the subject of institutional change, and alludes to an extensive summary of references on student retention (see Appendix A and Appendix B). Chapter Three, Methodology, outlines the approach to conducting a case-study review of the Native Hawaiian Vocational Education Project. In Chapter Four, the author will discuss the information gathered on the subject suggested by the title, "Student Retention: Catalyst for Institutional Change." Chapter Five shares personal insights into the future of institutional change within the University of Hawai'i Community Colleges.

CHAPTER TWO

Review of the Literature

Recent research on the subject of institutional and organizational change has appeared in higher education publications.

In 1971, Harold Taylor poignantly described the necessity for institutional change in response to existing societal change. Citing the campus unrest of the 1960s he wrote:

> What is at stake is not merely the solution of immediate problems of student unrest ... It is the solution to the problem of how American social institutions including the colleges and universities, can respond imaginatively to the reality of changes that have already taken place in society.

Realizing the presence of opposing ideologies, Taylor further noted that the issue is a conflict in philosophy between those who view the forces of change as threats to the social stability, and those who see society as a mixture of stability and change. Ultimately, stated Taylor, educational change is largely influenced not from within, but from external pressures; "the society, and the goals it has set for itself exert the pressures, assert the demands, and supply the funds for doing what the society wants done" (Taylor, 1971; Wygal, 1985).

Academic Strategy: The Management Revolution in American Higher Education, masterpiece of George Keller, argued that the majority of changes occurring in postsecondary institutions are induced in response to external pressures (Keller, 1983).

In 1977, John D. Millett described the management of institutional change and the conditions by which it is induced. In his analysis of conditions likely to prevail during the 1980s and 90s, Millett suggested that ten issues would influence change declining enrollments and lowering age of the college student, declining demand for college graduates, declining income sources,

increased integration of learning and work, increased concern for learning outcomes, increased attention to general education, emphasis on continuing professional education, increased emphasis on continuing general education, pressure on institutional costs, and the gradual decline of the research model (Millett, 1977; Riley and Baldridge, 1977; Christenson, 1982; Cameron, 1985).

A leading university administrator of the 1970s and 80s, Warren Bennis described methods he identified as fundamental in the process of administering innovative changes on a new campus. To be successful administrators should recruit with scrupulous honesty, build support among like-minded people, proceed from a definite plan for change, do not be satisfied with rhetorical change, appreciate environmental factors, and involvement of those affected by the changes in the planning (Bennis, 1977; Martorana and Kuhns, 1975).

Scholars in higher education have noted the participative responsibilities of administrators, faculty and staff in effecting institutional change (Baldridge and Deal, 1977; Alfred, 1985).

To be effective, institutional change should be deliberate and planned, requiring "intelligent, responsible participation by all members of the college or university community in gathering data, analyzing capabilities, setting goals and objectives and executing programs of action, allocating resources and evaluating results." Winstead proposed three alternative models for planned change in a recent article appearing in the series New Directions for Institutional Research. Havelock developed a problem solving approach to effecting change; Lindquist advocated a developmental method incorporating the stages of rational planning, social interaction, human problem solving, and political influence. The third approach uses a decentralized, participatory rationale based on management by objectives. The unique feature of this third

method is the role of a planned change specialist, who primarily serves as the facilitator for initiating institutional change (Winstead, 1982).

The National Center for Postsecondary Governance and Finance is currently involved in significant research on the issues of minority student access and success. One of the research projects addressing the process by which institutions experience meaningful change to facilitate increased minority student participation is being conducted by Dr. Richard Richardson of Arizona State University. His proposed model for change is described as "dialectic", in the sense that conflicting pressures are brought to bear upon an issue of mutual importance. In an effort to validate this theoretical model, Richardson will investigate colleges and universities in ten states, each with a demonstrated track record for matriculating significant numbers of minority students. Although Hawai'i was omitted from the original design process of the model, the investigator has expressed a strong interest in including a review of institutional change philosophies and activities during a proposed visit in September, 1988 (Richardson and Bender, 1987; Skinner and Richardson, 1988; Richardson, 1988).

Strategic planning, a popular management tool of the 1970s and 80s, is the subject of an article appearing in a recent issue of New Directions for Community Colleges. The six steps involved in this planning methodology are reviewed in the context of responsiveness to environmental pressures (Groff, 1986).

Change can occur within colleges and universities when an organizational development approach is utilized. Organizational development is conceptually defined as:

> A long-range effort to improve an organization's problem-solving and renewal process, particularly through a more effective and collaborative management of the organization culture with a special emphasis on the culture of formal workteams with the assistance of the change agent, or catalyst and the use of theory and technology of applied behavioral science, including action research.

Hammons further defined key terms for better understanding of important concepts. Problem-solving is the "way in which an organization faces challenges and opportunities of its environment." The renewal process, is the "process for initiating, creating, and confronting changes ... to make institutions viable, to adapt to new conditions, to solve problems, to learn from experience" (Lippitt, 1969). An institutional change agent or catalyst, is typically a "third party, external to the group initiating an organizational development effort; either from outside or within the organization" (Hammons, 1982).

In response to the question, What makes organizational development different from other change strategies, Hammons had this to say:

> Organizational development represents change that is planned, is pursued in systematic fashion, is expected to occur over a long period, is system-oriented, is managed, is based upon participation and involvement by those concerned, takes into account both data and experience, emphasizes goal setting and planning, is implemented with a contingency approach, and focuses on intact work teams.

According to Blake and Mouton, change may be described as either "evolutionary" or "revolutionary." The former occurs when change is minor adjustments respond to emerging problems within the status quo context, a type of problem-solving-as-you-go. The latter is usually short-term, based on quick-fix responses to individually held frustration (Blake and Mouton, 1970).

An emphasis on systematic approaches to change was detailed by French and Bell in 1978; "a systems approach encourages analysis of events in terms of

multiple causation rather than single causation ... If one wants to change a system, one changes the system, not just its component parts" (French and Bell, 1978),

A final perspective on the necessity for institutional change comes from educational observers who note that community renewal must be lead by colleges committed to the continued development of citizens and social institutions. The underlying premise of the community renewal college is that broad community change is necessary. To effect such change, the community college must play a vital leadership role (Gollattscheck, Harlacher, Roberts and Wygal, 1976).

Research on student retention is extensive. Traditionally, studies have adopted one of two approaches; single-institution studies with single variables or multi-institution correlational studies involving multiple variables. Appendix A is an annotated bibliography highlighting seventy-two notations on factors relating to student retention. This list is not inclusive of the references contained in the ERIC clearinghouse files. Appendix B is an additional list of one hundred and eighty references identified from preliminary research for the Native Hawaiian Community Colleges Advisory Council Report (1988), and reading in preparation for this document. This Appendix includes references on education-related papers, studies and one dissertation on the education of Native Hawaiians.

CHAPTER THREE

Methodology

The discussion in Chapter Four will present a case study review of the development and implementation of the Native Hawaiian Vocational Education Project. The selection of the case study methodology was made on the basis of the nature of questions under investigation. Case Study Research: Design and Methods, by Robert K. Yin was consulted as the premier and most definitive reference on the design and implementation of case study research. Shramm noted that the purpose of case study research is to "illuminate a decision or set of decisions; why they were taken, how they were implemented, and with what results" (Shramm, 1971).

Case Study Design

The design of this study will proceed on the basis of single-case, embedded study. The unit of analysis will be the entire Native Hawaiian Vocational Education Project, in consideration of the existence of one master contract between the University of Hawai'i Community Colleges and Alu Like, Inc. Analysis of the seven component campuses, and the activities and functions of the Office of the Chancellor, will comprise the overall assessment.

In describing the objectives, project activities, communication, community involvement and organizational dynamics of the Native Hawaiian Vocational Education Project, an attempt will be made to answer the eight questions raised in the section, Significance of the Problem.

The intent of the analysis is to demonstrate the application of a special systemwide project as a catalyst for institutional change within the University of Hawai'i Community College System.

CHAPTER FOUR

Discussion

The Native Hawaiian Vocational Education Project is a federally funded special project designed to increase the educational success of Native Hawaiian students in vocational education programs. Information on the activities leading to its establishment is required as a background to the discussion which follows.

BACKGROUND

Demographics

Demographic information show that Native Hawaiians generally continue to lag behind the general state population in academic performance. The most recent U.S. Census reported that Native Hawaiians comprise approximately 12.3% of the total state population. However, of the subgroup 18 years and older, 30% or 20,892 have not received a High School diploma. Native Hawaiians who have at some time attended college represent 5.9% of the total state adult population.

Concern over the underrepresentation of Native Hawaiians in public postsecondary education institutions in terms of distribution in the state population continues. Enrollment data from 1986 show that of the total enrollment at the University of Hawai`i at Manoa, only 5% were identified as Native Hawaiians.

Native Hawaiian enrollments at the University of Hawai`i Community Colleges show a more positive picture. In 1986, Native Hawaiians comprised 2,142 or 11% of the total university-wide enrollments. Generally, more Native Hawaiians enroll in vocational education programs than in liberal arts courses

of study. The five most popular programs by enrollment are:

Business	11.9%
Food Service	18.2%
Health Services	10.5%
Public Services	20.0%
Technology	11.0%

The following tables highlight enrollments of Native Hawaiian students by Community College campus, and also vocational enrollments and rates of graduation.

TABLE ONE

Community Colleges Classified Student Enrollment, 1985

County/ Campus	Total Enrollment	Total Hawaiian	Percent Hawaiian
Hawai`i CC	1,456	160	11.0%
Kaua`i CC	688	97	14.1%
Maui CC	786	158	20.1%
Honolulu CC	4,315	472	10.9%
Kapi`olani CC	4,499	368	8.2%
Leeward CC	4,880	484	9.9%
Windward CC	1,186	202	17.0%
CC's of Honolulu	14,880	1,526	10.3%
TOTAL	17,810	1,941	10.9%

TABLE TWO

VOCATIONAL EDUCATION ENROLLMENTS
NATIVE HAWAIIANS

ENROLLMENTS

TERM	TOTAL ALL PROGRAMS	HAW'N	%TOTAL	TOTAL VOC ED	HAW'N	%TOTAL
FALL '81	20,807	2,090	10	9,395	967	10
SPRING '82	20,286	2,047	10	9,217	973	11
FALL '82	22,176	2,355	11	10,308	1,147	11
SPRING '83	21,391	2,197	10	9,910	1,064	11
FALL '83	21,237	2,243	11	9,717	1,055	11
SPRING'84	19,763	2,047	10	8,898	942	11
FALL '84	20,175	2,174	11	9,147	1,034	11
SPRING'85	19,214	1,960	10	8,644	957	11
FALL'85	20,003	2,106	10	8,745	1,030	12
SPRING '86	18,417	1,893	10	7,813	888	11
FALL '86	19,995	2,142	11	8,226	967	12
SPRING '87	18,718	1,981	11	7,395	842	11
FALL '87	20,342	2,227	11	7,724	911	12

SOURCE: MANAGEMENT SYSTEMS OFFICE REPORT 2545
NOTE: SEMESTER TO SEMESTER TOTALS REFLECT ALL ENROLLMENTS, NOT JUST FIRST-TIME FRESHMEN.

Enrollments in vocational education programs closely parallels proportionate distribution of Native Hawaiians in the general state population. From this data it appears that Native Hawaiians are represented in far greater percentages at the University of Hawai'i Community Colleges than at the flagship campus.

A closer look at the success of Native Hawaiians, measured in terms of graduation in either an Associate in Arts, Associate in Science, or an

Associate in Applied Science, show that Native Hawaiians are not as strong as the program enrollments.

TABLE THREE

VOCATIONAL EDUCATION GRADUATES
NATIVE HAWAIIANS

GRADUATES

ACADEMIC YEAR	TOTAL VOC ED GRADS	HAWAIIAN VOC ED GRADS	&TOTAL
1982-1983	2,079	181	9
1983-1984	1,839	161	9
1984-1985	1,877	184	10
1985-1986	1,830	204	11
1986-1987	1,510	118	8

GRADUATES BY VOCATIONAL EDUCATION PROGRAM AREA

ACADEMIC YEAR

PROGRAM AREA	1982-1983 TL	HAW'N	%	1983-1984 TL	HAW'N	%	1984-1985 TL	HAW'N	%	1985-1986 TL	HAW'N	%	1986-1987 TL	HAW'N	%
BUSINESS	576	48	8	515	47	9	505	31	6	507	45	8	470	40	9
FOOD SERVICE	467	52	11	262	26	10	347	48	14	285	39	14	95	13	14
HEALTH SERV.	247	13	5	236	18	8	200	18	9	233	19	8	267	17	6
PUBLIC SERV.	148	21	14	121	15	12	189	35	19	167	30	18	127	19	15
TECHNOLOGY	641	47	7	705	55	8	636	52	8	637	71	111	551	29	5

SOURCE: MANAGEMENT SYSTEMS OFFICE REPORT 2545
NOTE: TYPE OF DEGREE AWARDED (AA, AS, CERTIFICATE, ETC) NOT REPORTED BY ETHNICITY.

Project Impetus

In 1984 the Carl D. Perkins Vocational Education Act was enacted by the United States Congress. Under the provisions of the Act (Section 103 of Title 1, Part A, Public Law 98-524), a set aside of funds under the Vocational Education Hawaiian Natives Program was provided for vocational education purposes. Alu Like, Inc., which was nominated by former governor George Ariyoshi as the recipient of the newly granted funds, has a statewide mandate to utilize these resources for the benefit of the Hawaiian community. By 1985, funds became available for Alu Like, Inc. to dispense, with the intention of seeking maximum educational benefits to as many Native Hawaiians as possible.

Enhancing student success and the institutional climate which facilitates success has always been one of the basic goals of the University of Hawai'i Community Colleges. In concert with national trends in addressing the issues of access, quality, equity, assessment and many others, the Community Colleges have responded to student needs with the available resources at its disposal. Typically, Title III, FIPSE funds, and other funding sources have enabled campuses to address student needs in a variety of ways .

In addition to the University of Hawai'i Strategic Plan, the Community Colleges widely utilize New Directions for the 80s. Five of eleven directions for the Community Colleges have immediate impact on the quality of the students' experience. The remaining guidelines have indirect benefit, so far as faculty, staff, and administrators interact with students. This document serves as the guide for shaping the Community Colleges for the decade of the 80s.

Although Hawai'i is disadvantaged by physical distance to contiguous mainland states, information regarding trends in a variety of educational

issues is actively maintained. Examples include student assessment, institutional accountability, learning outcomes, collective bargaining.

Theoretical development on attrition and retention at mainland college and university campuses was well documented during the late 1970s, early 1980s. Institutions sought to initiate applications of the theories formulated by researchers such as Durkheim, Tinto, Bean, Pascarella, and Astin. The proliferation of campus-based retention activities has come into its own during the 1980s, as external factors such as federal funding have become a critical influence in the survival of struggling institutions.

In Hawai'i, what was needed was some way of determining the effectiveness of state and federal funds in meeting the educational needs of Native Hawaiians.

The first stage of investigation for the Community Colleges occurred in a disjointed and incoherent manner. Three Community Colleges (Maui, Kaua'i, and Hawai'i) entered into direct contracts with Alu Like, Inc. during the first official year (1986-87). The intent of the individual campuses was to set in place direct services to meet immediate student needs.

The second stage of activities began during Fall, 1986 at a meeting of Deans of Student Services, in which the idea of targeting Hawaiian students for assessment purposes and improving retention was endorsed.

In February 1987, the Community Based Vocational Education Project was initiated with funding support from the Office of the State Director for Vocational Education. With a firm commitment to increase the participation of community members in institutional activities, as referenced in New Directions for the 80s, Chancellor Tsunoda convened an Advisory Council comprised of one

campus representative, and an individual from the surrounding community area. The intent of the project was to conduct a needs assessment of the services and programs currently available to Native Hawaiian students, and to see where the delivery of services could be effectively improved.

The findings of the Native Hawaiian Community Colleges Advisory Council are documented in a comprehensive report to the Chancellor for Community Colleges. A series of recommendations were developed, based on information shared with Advisory Council members by campus informants, and consideration of seven identified barriers to student success. The barriers identified as critical in terms of Native Hawaiian student success are: 1) financial need, 2) personal problems, 3) inadequate childcare, 4) need for community networking, 5) low self-image, 6) low basic skills, 7) need for appropriate assessment and monitoring. The recommendations highlighted in the Report suggest measures to counter the factors perceived to be related to attrition and under completion of academic goals.

Ideally, the Native Hawaiian Community Colleges Advisory Council Report is a guide for each Community College in developing activities that lead to increased enrollments, retention and graduation of Native Hawaiian students. Campus administrators were encouraged to share the Report in draft form with campus constituents; faculty and staff, to identify responses to the recommendations contained in the Report.

With the Report serving as the basis for future activities, the third stage of implementation developed naturally. It soon became apparent that much work was required if the Community Colleges were to respond favorably to the recommendations at hand. The Chancellor's Office staff took a proactive stance in developing a solid, effective campus-based project that would

require coordination and leadership centrally, but would ultimately depend on campuses to make successful. At the same time, Alu Like, Inc. representatives in the Native Hawaiian Vocational Education Program assumed an intense interest in the whole issue of retention among Native Hawaiian students.

PROJECT OBJECTIVES

During the summer of 1987, a proposal was developed by the Chancellor's staff outlining the objectives and program elements of a multi-year contract with Alu Like, Inc.

In light of disparate attempts to service Native Hawaiian students across the Community College campuses, it was proposed to Alu Like, Inc. that a systemwide approach be adopted to remove the barriers identified in the Report of the Advisory Council.

The first design feature considered was the benefit that would accrue to each community college campus if there were common types of objectives for increasing the success of Native Hawaiian students. Extensive references in the extant literature on effective retention projects share the common theme: institutions benefit from serving the needs of minority (or targeted) populations (Anderson,1978; Baldridge, Kemerer & Green, 1982; Cope, 1978; Crockett, 1978; Noel, 1976; 1978; Noel et al, 1985).

A second design feature centered around the benefits and gains anticipated for students (Native Hawaiians as the initial beneficiaries). The main theoretical insights were derived from Astin, Preventing Students From Dropping Out (1975), Achieving Educational Excellence (1985), and Tinto, "Dropout From Higher Education: A Theoretical Synthesis of Recent Research" (1975). The compendium on student retention by Noel, Levitz and Saluri (1985), was also consulted for direction in developing the appropriate levels of objectives to

guide and shape the project.

The third feature concerned the delivery of an array of campus-based services to address the needs of Native Hawaiian students as guided by the barriers to access and success. A selection of services was developed based on existing practices at each campus and others suggested in the literature. Although the findings of the Advisory Council mentioned that campus services and programs were available for students, the project calls for campus-based assessment on the effectiveness of such services. To that end a battery of specific items was developed to guide, but not necessarily prohibit a campus from expanding or assessing itself in other areas where retention would be impacted (See Appendix C).

The unique organizational structure of the University of Hawai'i Community Colleges within the overall governance structure of the University of Hawai'i was a fourth factor in shaping the objectives of the Native Hawaiian Vocational Education Project. The project will potentially demonstrate affirmative progress toward fulfillment of the mandates for meeting the needs of special student populations. In addition, public accountability to internal and external constituents (UH Board of Regents, faculty, students, State Legislature, Hawaiian agencies and community) will bear indirect influence on the future funding of the project.

ORGANIZATIONAL DYNAMICS

The Native Hawaiian Vocational Education Project is primarily a campus-based program for increasing student success. Through generous resources from Alu Like, Inc. each campus will have a new staff member hired by September 1, 1988 to provide staff support to Native Hawaiian students. The generic term used in the project is Retention Specialist. The main functions of this staff

person are to coordinate efforts to raise the success of Native Hawaiian students (as measured by GPA, course and program completion, term to term persistence, and graduation), generate increased awareness and support for the special education-related needs of Native Hawaiians. Additionally, campuses may find it appropriate to have the Retention Specialist staff the task force that investigates and promotes the success of Native Hawaiians.

At the administrative level, Provosts have designated a Dean to be responsible for the implementation of campus retention activities. In most instances the Dean of Student Services has assumed the role of principal contact between campus personnel and the Chancellor's representatives.

Primary responsibility for the development, implementation and oversight of the project resides with the Director for Academic Affairs. Additional staff hired for the express purpose of providing coordination and leadership have been hired to manage the implementation of the project at each campus. The Project Director will work closely with campus administrators, the Director for Academic Affairs, Alu Like, Inc. and other constituencies (Office of Hawaiian Affairs, Kamehameha Schools, Department of Education, University of Hawai'i at Manoa, community organizations). Other functions will include providing technical assistance, conducting empirical research on the causes of dropout among Native Hawaiians, as well developing a theoretical model for increasing retention among students enrolled at the University of Hawai'i Community Colleges.

Coordination with Alu Like, Inc. representatives is expected to be an ongoing aspect of the project. Although Alu Like, Inc. has a vested interest in the progress made in achieving institutional change, responsibility for shaping campus activities and advocating in behalf of the interests of Native

Hawaiian students resides with the Office of the Chancellor for Community Colleges.

As a valued resource in the monitoring of the Native Hawaiian Vocational Education Project, the Native Hawaiian Community Colleges Advisory Council will continue to dialog with project staff on a quarterly basis. Issues generated at the campus level will be addressed in the Advisory Council forum, with recommendations prepared for consideration by the Chancellor's Office and the respective campus staff and administrators.

PROJECT ACTIVITIES

The Native Hawaiian Vocational Education Project provides a context for a variety of campus-based and systemwide activities. A third audience, community participation, will be described in some detail in a subsequent section.

At the Community College campuses, the project will encourage careful analysis of campus-specific retention activities. For example, the dropout rate for Native Hawaiian students should be determined, as well as the causal factors affecting such student behaviors. In addition, through the efforts of the Retention Specialist, campuses should commence a review of at least twenty college practices impacting on the continued enrollment of Native Hawaiian students. The twenty items cited in each campus work program are intended as a general guide rather serving a mandatory prescriptive purpose. Examples include student recruitment, campus-oriented introduction for new students, course selection and placement, learning preferences and teaching method congruence, and family and community involvement in college affairs.

Creating awareness of the necessity to address student outcomes will be an important task of the Retention Specialist. Three campuses have the luxury

of additional staff, enabling a more extensive outreach and staff awareness function. The following diagram represents the staffing made available as a result of the Native Hawaiian Vocational Education Project. Positions marked with an asterisk were made possible with federal funds through Alu Like, Inc.-Native Hawaiian Vocational Education Program.

Without exception, recruitment is an important element of campus activities for 1987-88, particularly at Kapi'olani Community College where relatively few Native Hawaiians are enrolled in allied health and business courses.

An important responsibility of the Retention Specialist will be to work closely with all segments of the institution to heighten awareness and support for retention activities. This relationship will in part, be affected by the self-analysis of existing services and programs. Each campus will be encouraged to develop retention activities that either directly improve current activities or anticipate future student needs.

Under the specific tasks of the Chancellor's Office, certain expectations should be fulfulled before the end of the funding period. Examples of the types of activities for which this Office must demonstrate reasonable progress include:

1) selection and hiring of a Director, Research Assistant, and other staff,

2) maintain a working group atmosphere among members of the Native Hawaiiian Community Colleges Advisory Council,

3) initiate measures to improve the collection and analysis of data,

4) initiate reserach on the statue and needs of Native Hawaiian students,

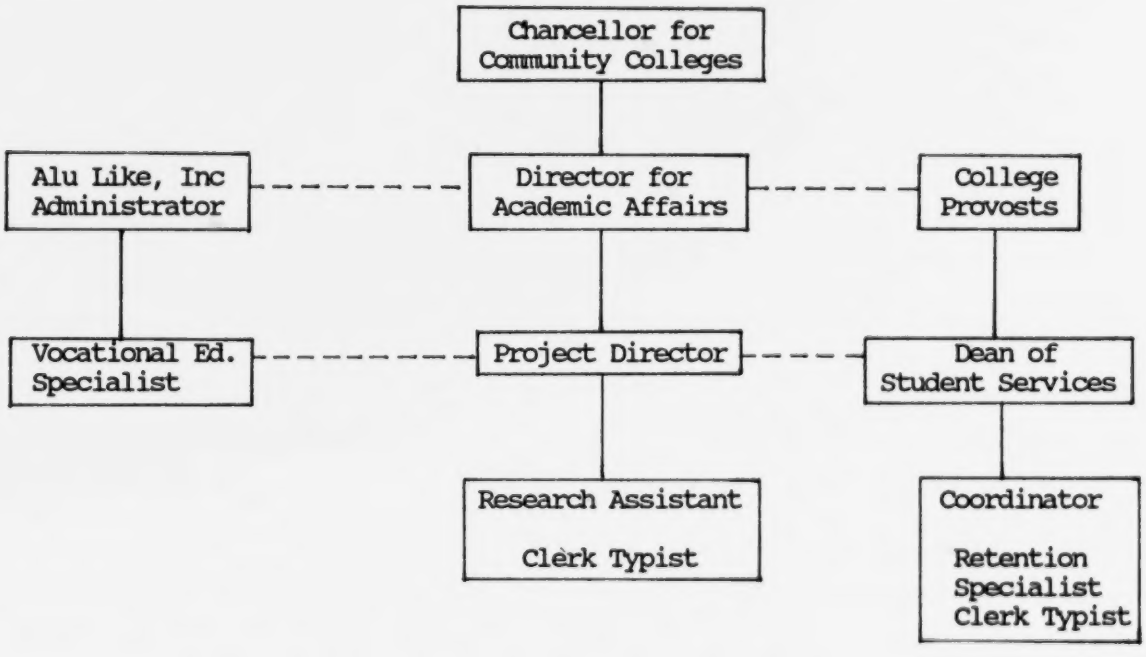
5) actively participate in the development of a computerized system to track the progress of Native Hawaiian students, over time;

6) Provide ongoing support to staff at each campus in the development and completion of a campus-based retention plan.

The tasks cited above describe a level of activity that addresses campus needs. A second layer of responsibility includes all the public relations-type assignments: developing faculty/staff exchanges, sponsoring a statewide conference focusing on increasing student retention, assisting in the development and implementation of campus-oriented retention networks.

Leadership of the Native Hawaiian Vocational Education Project is an important issue. Specifically, the ability to mobilize and move the entire staff forward, will require careful attention to the issues facing students, student support professionals, faculty, administrators in achieving its broad objectives.

The diagram below represents the major institutional participants in the Native Hawaiian Vocational Education Project.



STATUS REPORT

Since the inception of the Native Hawaiian Vocational Education Project in October, 1987, the climate for institutional change has been impacted in small, yet meaningful ways. The events that led to the completion of the initial contract were the result of keen judgment and decisive decision making on the part of Chancello'rs Office staff.

Early campus initiatives on the Neighbor Island campuses lacked adequate direction and focus, resulting in the decision to approach institutional change in a more structured and organized manner.

Systemwide discussions of the Deans of Student Services were extremely fortuitous. As a result of their prior involvement on similar issues, the Deans regularly provide a powerful resource in sharing information.

Efforts expended by the Native Hawaiian Community Colleges Advisory Council betweeen March and September, 1987, were valuable in shaping the recommendations made to the Chancellor.

With the completion of preliminary discussions between Alu Like, Inc. and the Office of the Chancellor, details of the work programs began to emerge. Adminstrators initiated position descriptions for the hiring of new staff, while reviewing the appropriate campus work agreements to ensure compatibility of job performance and outcomes.

Contacts between the Chancellor's Office and Provosts have been maintained since the idea of assisting Native Hawaiian students through a form of direct services emerged during summer, 1987.

Key events in the progress of the project to date may be summarized as follows:

1) 1984 - Carl D. Perkins Vocational Educational Act

2) 1986 - Alu Like, Inc. receives federal funds, expending the resources through more than twenty independent sub-contracts

3) 1986 - Maui CC, Kaua'i CC, Hawai'i CC entered direct sub-contracts to meet the needs of "high risk" students

4) 1986 - Deans of Student Services endorsed the idea of addressing on attrition among Native Hawaiians

5) 1987 - Native Hawaiian Community Colleges Advisory Council was organized, providing a comprehensive assessment on the services and programs dedicated to Native Hawaiian students

6) 1987 - Development of contract between Alu Like, Inc. and the Chancellors Office

7) 1987 - Quarterly meeting of the Native Hawaiian Community Colleges Advisory Council w/ institutional change (Chancellor's Luncheon)

8) 1987 - Campuses experience difficulty in completing paperwork to hire staff

9) 1988 - Staff hired to coordinate activities among the Community College campuses, Alu Like, Inc. and Chancellor's Office

10) 1988 - Student Tracking System Steering Committee organized

11) 1988 - Project Director hired to assume management of NHVEP

12) 1988 - Workshops held with representatives from the National Center for Higher Education Management Systems on the concepts of student tracking

CHAPTER FIVE

Conclusion

The purpose of this paper has been to lay out the component parts of a complex, conceptual model for institutional change. Numerous questions are always raised about institutional self-renewal efforts. For example, how seriously does an institution want to create a conducive and open learning environment for its students?

In the opening section of this paper, eight questions which I have reflected on for several weeks were posed. Based on observations of campus efforts to initiate change, involvement from the systems office, and material described in Chapter Two, the balance of this Chapter will focus on answering the questions.

Question One. The University of Hawai`i Community Colleges are in a unique position to implement change-oriented activities. Through the Native Hawaiian Vocational Education Project, each campus has the opportunity to create a positive combination of direct services (counseling, advising, peer counseling, tutoring).

In addition, the presence of an additional resource person or persons familiar with issues of student retention should be the catalyst for intiating change. With training and experience such an individual would in time be able to function as a change agent, as described by Hammons (1982). It is with the purpose in mind that six representatives from the Native Hawaiian Vocational Education Project will participate in the Second National Conference on Student Retention in Boston, Massachusetts. The research on retention

as well the experience of other institutions will provide vital insights on ways to effectively increase the retention of Native Hawaiian students at University of Hawai`i Community Colleges.

Campus awareness that new staff are available to assist in activities that increase retention will accelerate as faculty and staff become involved in directly assisting students beyond classroom instruction and office counsseling sessions. At Kaua`i Community College students have taken direct responsibility for identifying other Native Hawaiians eligible to be served by the direct services. This net effect of this outreach has been an increased awareness among students that a staff member is available for assistance. Lunchtime concerts of Hawaiian music at Maui Community College have revived a sense of pride in being Hawaiian, and given students a new awareness about attending college.

At the University of Hawai`i at Hilo, an organized cadre of faculty of Hawaiian ancestry meet regularly to address the needs of Native Hawaiian students. As a result of several years of effort and committed leadership from Dr. David Sing, the faculty have been responsible for the fromation of the Hawaiian Leadership Development Program. Intended to serve "average to above-average" Hawaiian students, the inter-disciplinary program provides leadership training experiences for young Native Hawaiian students attending the University of Hawai`i at Hilo. The cohesive teamwork atmosphere has generated administrative endorsement of the Chancellor, who believes that issues facing Native Hawaiians in education can be appropriately addressed by members of the faculty and staff.

In November, 1987, a conference on Hawaiian leadership was held at the University of Hawai`i at Hilo to focus on leadership development in the

community. Regarded as a model for institutional change, primarily from the position of proactive, innovative methods to assist students, this program has continued to grow and expand so that it serves two purposes; acts as a tool for recruitment, and assists students in their learning experiences at the university.

A final method by which institutions attempt to initiate change is by campus-wide attention to crucial issues. In varying degrees each Community College will address this process with the view of creating a partnership between instructional faculty and student support professionals. How this is achieved is often problematic. In these instances, staff in the Native Hawaiian Vocational Education Project may be called on to assist in staffing these activities. A caveat should be raised at this point. To expect the project at the campus level to generate the enthusiasm and support for retaining students is unreasonable. Campus-based activities for Native Hawaiian students are seen as the catalyst for broader attention to meeting the needs of all students. The creation of a dedicated task force to tackle the issues relating to student attrition and retention requires administrative involvement. Through the Native Hawaiian Vocational Education Project, a process is being developed to create a model for campus partnerships, that will include the active involvement of community members as well.

Question Two In educational institutions, events are often shaped or inspired by the guiding philosophy or beliefs of the institution, and those who lead. A number of activities and events might be instructive in creating a movement for institutional change.

Cultural events in the community that can be connected in some meaningful way to a campus often have a positive impact. For example, at the University of Hawai`i at Hilo, regular cultural performances of Hawaiian music and hula successfully attract large audiences. These and other activities, organized and sponsored by students in the leadership development program, serve as an effective way of communicating and sharing success.

At Honolulu Community College recent restructuring of Student Services has been initiated with the goal of better students at the college. This deliberate and carefully designed approach to enrollment management uses Tinto's model of social and intellectual integration as the theoretical basis for adjusting to change (Tinto, 1975).

Strategic placement of key staff makes a difference on a campus. At Kapi`olani Community College, the Retention Specialist will work directly with the Provost's staff in looking at the data on Native Hawaiian students and developing sound strategies for implementation at the campus level.

A commitment to the development of student potential is fundamental view espoused by Astin of UCLA (Astin, 1987). The University of Hawai`i Community Colleges must address the needs of all students with this philosophy as an important influence. Through the Native Hawaiian Vocational Education Project, the opportunity to develop and nurture that viewpoint across the system is important. Traditionally, the Community Colleges have long been committed to increasing student access and quality. Efforts in this direction must be communicated and acknowledged appropriately.

Question Three Special programs serve an important role in creating and establishing broad-based awareness of the need for change. Recognition of the existence of a problem does not necessarily mean the problem will be resolved without action. Nor does the presence of special programs gurantee that issues such as high dropout will be effecively dealt with. However, through special programs an institution takes the initiative to try to assess the problem, its causes, and ways to effect improvements.

Step Four The Native Hawaiian Vocational Education Project is a catalyst for institutional change. Funds provided by Alu Like, Inc. will enable campuses to begin looking at retention issues. One of the priorities of the project will be to eventually establish the staff positions at each campus with state funds so that federal support will no longer be necessary. In this way, the colleges will have responsibility for maintaining appropriate levels of funding to support the whole initiative.

A further area in which the project serves as a catalyst for change institutional research. The capacity and resources to conduct timely and meaningful studies on the learning styles, effectiveness of classroom teaching methods is a key element of the project. With appropriate direction and insight potential to engage in useful research should provide keen interest in the projects' outcomes. Data regarding student flow indicates types of student behaviors, but does not provide insight into the reasons for students withdrawing in some degree from a course, program or institution (systemic dropout).

Through creative public relations activities at each campus, and active the active participation of faculty and staff in retention issues, the project

will potentially improve the climate for student success. The work of Lee Noel has focused extensively on mobilizing retention activities across the campus (Noel et al, 1985).

Question Five Traditional responses to student attrition and retention have taken either of two approaches. Depending on the character and philosophy of the institution, and the internal dynamics for change, attrition and retention will not be recognized as an institutional priority. Therefore the administrative and faculty/staff interest will not support proactive measures to address concrete problems.

Commitment translated into leadership and action has quickly become the vogue in many institutions across the United States. Programs and projects addressing student retention and success have developed rapidly. In Hawai'i, the Community Colleges have adopted campus-level activities, however, there has been no concerted effort to look at common problems and needs in a systematic manner. Hence the real value of the Native Hawaiian Vocational Education Project is the opportunity to assist each campus in carefully assessing, and responding to student needs.

Question Six A proposed two year study sponsored by the National Center for Postsecondary Governance and Finance will undertake research on the topic of institutional change. Working from the basis of a dialectic model of conflict, Richardson will looking at the process by which institutions respond to meeting the needs of minority students (Richardson,1988). The four proposed stages of change include the following: 1) recognition of a problem (brought about through dialog between and among external and internal constituents); 2)

establishment of special programs to service the needs of minority students; 3) integration of special programs into mainstream institution activities; and 4) adoption of a new perspective and philosophy of mionority success that drives the institution.

The recent experience of the Native Hawaiian Vocational Education Project demonstrates that the development of a large-scale project of this nature necessarily requires sufficient time to take hold and establish permanence.

When negotiations began more twelve months ago, it was envisioned that the design and implementation of a computerized student tracking system would become a major priority. However, the benefit of the experiences at other institutions is an important informational source in terms of developing programs and other support services.

The gradual and often slow pace at which special projects receive wide acceptance is an additional factor in the future of the project. Steps must be taken to adequately inform as borad an audience as possible about the purpose and need for the project. In another year (1989) there will be ample information derived from activities to conduct a useful evaluation, the intended impact of which should be to give shape and leadership to the project.

Question Seven With continued administrative support and involvement and broad campus participation, the project should provide a meaningful basis for the development of a statement on the significance of institutional change. The development of a theoretical mopdel for serving student needs in the University of Hawai`i Community Colleges will be uesful in shaping such a statement. The timing of the statement could not come a better time, especially with heightened awareness and support of minority issues nationwide.

The University of Hawai`i Community Colleges should provide leadership in this area, and demonstrate its commitment to the educational success of all students.

Question Eight The direct impact of the Native Hawaiian Vocational Education Project will be felt primarily by students. Individual and group contacts with staff such as the Retention Specialist will begin to provide a cooperative, helpful support network for Native Hawaiian students. Issues of program and budget development will continue to affect the decision making skills of staff and administrators on each campus, and their counterparts at the systems level.

The development and implementation of a computerized student tracking system scheduled for Academic Year 1988-1989, will provide numerous benefits to the entire University of Hawai`i Community College system. Designed to track semester to semester academic progress of student cohorts, the system will generate several types of reports useful in understanding student and institutional performance. The reports can be designed to meet reporting requirements for the system, the Board of Regents, and state legislative bodies interested in the educational outcomes of students attending the institutions.

From this discussion it is clear that the Native Hawaiian Vocational Education Project is a catalyst for institutional change. Although the process of developing awareness, support and direction is taking place at both the campus and systems levels, success will require continued commitment to the goals and objectives of the project. With the advantage of extensive research on the subject, and the benefit of short term experience in Hawai`i, the future of the project is promising. The long term benefits to students will have immediate benefit in the Community Colleges and provide the impetus for broader

community participation through Alu Like, Inc. and other organizations serving the needs of the Hawaiian community

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APPENDIX A

SELECTED ANNOTATED BIBLIOGRAPHY ON STUDENT RETENTION

SELECTED ANNOTATED BIBLIOGRAPHY ON STUDENT RETENTION

Anderson, Edward. "A Retention Design Applied to an Equal Opportunity Program." In Lee Noel (Ed.), Reducing the Dropout Rate. San Francisco: Jossey-Bass, Inc., 1978.

Identifies key aspects of program success: endorsement from institution officials, good recruitment program, alliances with feeder high schools, orient students with institutional demands, programs integrated with other institutional activities.

Astin, Alexander W. Preventing Students from Dropping Out. San Francisco: Jossey-Bass, Inc., 1975.

Extensive study of the factors which relate to student attrition. The study begins with an analysis of three definitive categories of students: (1) dropouts; (2) stopouts: and (3) persisters. This research is part of a group of on-going longitudinal studies in education of approximately three million students and nine hundred institutions.

Astin, Alexander W. Predicting Academic Performance in College: Selectivity Data for 2300 American Colleges. New York: The Free Press, 1971.

This book is targeted for use by High School students and their counselors in selecting a college. Its attention to the identification and use of variables that predict academic performance as well as the environmental features of individual colleges make it an interesting study among educators and social scientists.

Astin, Alexander W. Achieving Educational Excellence. San Francisco: Jossey-Bass, 1985.

The underlying philosophy which Astin articulates in this book is that the development of student talent is the primary mission of our higher education institutions. The traditional view of rating institutions in terms of financial resources, and the so-called reputation of the teaching faculty are bypassed in this discussion of placing students at the heart of our institutions. Astin sees the impact of engaging students in the learning process as being essential to our notion of what creates successful colleges and universities. His ideas have useful implications in providing, rather developing, institutions that view students learning as the real measure of success. The implications for increased persistence because of increased involvement and satisfaction are intriguing.

Axtel, Dayton and Alison Coad. A Study of a Sample of Merritt College Students: Reasons Precipitating Withdrawal, and Attitude Toward Services and Instruction. No.11. Oakland, California: Northern California Community Colleges Research Group, 1979. (ED 186 047).

The major findings indicate that only 8.7% of the respondents were considering dropping out. Financial difficulty was the most frequently cited reason, followed by the need to get a job, and personal commitments and problems. Another 47.3% of the respondents indicated that they had given serious consideration to leaving due to the need to get a job, personal commitments, and intention to transfer.

Baldridge, Victor J, Frank R. Kemerer, and Kenneth C. Green. The Enrollment Crisis: Factors, Actors and Impacts. AAHE-ERIC/Higher Educational Research Report No. 3, 1982

Discussion of issues involvement in retention issues: the factors to consider, the importance of institution wide commitment to retention, and the impacts of various programs.

Bandura, Albert and Aletha C. Huston. "Identification as a Process of Incidental Learning." Journal of Abnormal and Social Psycholoy. 63 (1961). pp. 311-318.

This article hypothesizes that persons who have nuturant and rewarding interactions with models exhibit significantly more of the model's behavior than those who experience relatively cold relationships.

Beal, Philip and Ernest T. Pascarella. "Designing Retention Interventions and Verifying Their Effectiveness." In Studying Student Attrition. Edited by Ernest T. Pascarella. Vol. 36: New Directions for Instituional Research, 1982.

Existing programs designed to influence student retention are needed and a procedure for verifying their effectiveness is discussed.

Beal, Philip E., and Noel, Lee. What Works in Student Retention. Iowa City, Iowa: The American college Testing Program and National Center for Higher Education Management Systems, 1980.

This is based on the national survey completed in 1979 among a sample of postsecondary institutions. The findings reveal a high student attrition rate among two-year public, four-year public, and four-year private sectarian schools. Recommends need for institutions to recognize and remediate problems experienced in this area.

Bean, John P., "Conceptual Models of Student Attrition: How Theory Can Help the Institutional Researcher." In Studying Student Attrition. Edited by Ernest T. Pascarella. Vol. 36: New Directions for Institutional Research, 1982.

A model of student attrition is a representation of the factors which are presumed to influence decisions to drop out of an institution. This article discusses six types of models which have the potential to help us understand attrition process. The models are Atheoretical models: the descriptive studies, Prematriculation characteristics, Person-Role fit, Longitudinal-Process Models, Industrial Model of Student Attrition, Intentions in Influencing Behavior and the Synthetic Model.

Bower, C., and Myers, E.A. A Manual for Conducting Student Attrition Studies in Institutions of Postsecondary Education. Boulder, Colo.: National Center for Higher Education Management Systems at Western Interstate Commission for Higher Education, 1976.

Gives detailed adminstrative procedures, processing guidelines, and examples of questionnaires and other materials necessary for conducting attrition studies.

Cope, Robert G. "Why Students Stay, Why They Leave." In Lee Noel (Ed.). Reducing the Dropout Rate. San Francisco: Jossey-Bass, Inc., 1978.

The key to student retention is by improving the social and academic integration of students and institutions. However, the author conceded that leaving college can often be a positive step.

Cope, Robert G. and W. Hannah. Revolving College Doors: The Causes and Consequences of Dropping Out, Stopping Out, and Transferring. New York: Wiley, 1975.

Examines variables associated with dropping out, applies the findings and presents student and institution case studies. Gives recommendations and guidelines for needed changes.

Crockett, David S., "Academic Advising: Cornerstone of Student Retention." In Lee Noel (Ed.), Reducing the Dropout Rate. San Francisco: Jossey-Bass, 1978.

Emphasizes that a well-articulated institutional policy on what the institution wants to achieve with its advising program and how it plans to implement the program is crucial to the success of retention.
This incorporates the importance of the staff, the quality and frequency of contact, etc.

Eckland, Bruce K., and Joseph M. Wisenbaker. National Longitudinal Study: A Capsule Description of Young Adults Four and One-Half Years After High School. Research Triangle Park, North Carolina: Research Triangle Institute, February 1979.

This study provides an evalutation of a data base containing statistics on a national sample of 1972 high school seniors after graduation, and the year-by-year progress of the student sample within a four-year period in the areas of postsecondary training and employment.

Ewell, Peter. Information on Student Outcomes: How To Get It and How To Use It. Boulder, Colo.: National Center for Higher Education Management Systems, 1983.

A guide to developing a student-outcomes data base, and the application of student outcomes information to institutional decisionmaking. Included is a comparision of data-gathering instruments on selected outcome dimensions.

Ewell, Peter T. (Ed.) Assessing Educational Outcomes. New Directions for Institutional Research. No.47. San Francisco: Jossey-Bass, September, 1985.

A series of essays on the issues and problems related to the study of student outcomes. The design and follow-up studies of graduates adn former students, and the development and use of a longitudinal student outcomes data file are two topics of interest in examining the impct of college on students.

Fisher, James L. "College Retention From a Presidential Perspective." In Lee Noel (Ed.),Reducing the Dropout Rate. San Francisco: Jossey-Bass, Inc., 1978.

From the presidential perspective, a strong academic program is one of the best assurances of student retention.

Glennen, Robert E. "Intrusive College Counseling." College Student Journal. February/March, 1975. pp:2-4.

A counseling program initiative at the Unviversity of Nevada, Las Vegas is cited. The author suggests an intrusive counseling program in which counselors "thrust" themselves into the affairs of students as a means of improving attrition rates at the postsecondary level.

Glenny, Lyman A. "Demographic and Related Issues for Higher Education in the 1980s." Journal of Higher Education, 51. July/August 1980. pp:363-380.

In light of enrollment projections that indicate an increase in minority college student enrollments and a decrease for non-minority students during the 1980's, the author affirms the critical responsibility of all institutions to develop strategies to reduce student attrition.

Goodrich, Andrew. A Data-Driven Retention Model for Improving Minority Student Persistence in Higher Education Institutions. Chicago: Data-driven Retention Systems Ltd., 1980.

The model in this monograph utilizes a comprehensive approach that provides for the use of data in improving the retention and graduation rates of minority and non-traditional student populations in both predominantly white and black institutions. Six components make up the model: 1) data collecting and formating; 2) computerized academic monitoring system; 3) academic articulation and retention teams; 4) campuswide retention workshop; 5) pre-professional academic societies; 6) follow up/evaluation. Four objectives are outlined: 1) identification of problems and solutions affecting minority enrollment and distribution; 2) academic monitoring of students; 3) identify services, advising, and curricula in need of improvement; 4) providing a tool for policy and procedural changes.

Haagen, C. Hess. Venturing Beyond the Campus: Students Who Leave College. New York: M.Evans, 1976.

Reports experiences and attitudes of dropouts. Provides information to students considering dropping out, and to educators, couselors, parents.

Hahn, Ralph W. "In Defense fo Dropping Out: A Forthright Refutation of Community College Dogma." Community College Review. Winter, 1974. pp:35-40.

Especially relevant to community colleges, the article suggests dropping out as an option available to students that is not necessarily harmful. An approach is presented in which colleges would expand course offerings and free students from the pressures of being compelled to complete an acadmic program. This article is noteworthy with respect to withdrawal which is not enforced by the institution.

Hillery, Milton C. "Maintaining Enrollment Through Career Planning." In Lee Noel (Ed.), Reducing the Dropout Rate. San Francisco: Jossey-Bass, Inc., 1978.

The general recruitment and retention activities at Kenosha, Wisconsin are discussed. Career planning is suggested as a response to concerns surrounding students' admission and retention.

Hoyt, Donald P. "A Retrospective and Prospective Examination of Retention-Attrition Research." In Lee Noel (Ed.), Reducing the Dropout Rate. San Francisco: Jossey Bass, Inc., 1978.

A clarification of the problem of attrition by examining current assumptions and directions for further research. The author suggests that central problem is one of maximizing satisfaction with choices.
Questions seldom asked are those such as: How are personal goals developed and identified? What types of services or programs will respond meaningfully to the goals? How can personal goals and institutional programs be optimally articulated? What types of environmental comfort does the institution offer?

Huber, W.H. "Channeling Students for Greater Retention." College and University. 47 (1971). pp:19-29.

Recommends that colleges consider applicants as individuals and select those which match the institution in order to increase retention.

Iffert, R.E. Retention, Withdrawal of College Students. U.S. Office of Education Bulletin 1958, No. 1. Washington, D.C.: U.S. Government Printing Office, 1957.

Presents data on a sample of freshman dropouts. Suggests implcations for postsecondary institutions.

Jose, James R. "Some Plain Talk on Retention by a College Dean." In Lee Noel (Ed.), Reducing the Dropout Rate. San Francisco: Jossey Bass, Inc., 1978.

The attitude and behavior of faculty, administrators and staff toward students is a significant factor in student retention.

Kauffman, Joseph F. "Assessing the Quality of Student Services." Determining the Effectiveness of Campus Services. New Directiions for Institutional Research, No.41. San Francisco: Jossey-Bass, March, 1984.

Describing the basic types of student services required at each campus, the author explains the relationship between the institutional mission and such services. Underscores the importance of faculty attitudes toward students and the effectiveness of student services. One of the suggested measures of quality in student services is the availability and usefulness of a student information system. Institutional environment is another significant dimension to assessment of quality.

Kay, Robert A. "A Required Counseling-Study Skills Program For Failing College Freshman." Journal of College Student Personnel. March, 1972. pp:159-162.

The focus of this article looks at a special program implemented to treat the needs of students identified as failing, at the University of Connecticut during Spring semester 1970. The program consisted of individual counseling, group guidance, academic skills development. Correlational studies revealed among other things that the mean GPA of program participants was significantly higher than those in the control group who were not given special attention. The author's implication that this type of intervention may affect the retention of students, resulted in the recommendations that more remedial programs be implemented, and the university assume more responsibility for the academic failures of freshmen students.

Kesselman, J. Stopping Out: A Guide to Leaving College and Getting Back In. New York: M.Evans, 1976.

Examines options available at many schools for dropping out. Offers advice to students considering leaving college.

Kowalski, C. The Impact of College on Persisting and Nonpersisting Students. New York: Philosophical Library, 1977.

This book identifies key factors that distinguish between persisting students. The suggestions for programmatic guidelines to aid in reducing higher education dropout rates found in the text are noteworthy. One suggestion is that universities evaluate students' background characteristics such that potential dropouts are identified before they become systemic dropouts. A further suggestion is that this information should be shared with faculty. This example is particularly significant in light of contrasting approaches that suggest there is no inherent trait that leads to academic weakness.

Lehman, L.Y., and T.R. Sanford. "Graduation Rate Data: A Major Contributiion to Institutional Planning." Paper presented at the Annual meetng of the Southern Association for Institutional Research. Nashville, Tennessee, October 26-27, 1978.

The authors suggest that retention is a viable tactic for reducing the impact of the anticipated decline in the size of college enrollments, and retention data can be a valuable aid in an institution's planning efforts.

Lenning, Oscar T., Variable-Selection and Measurement Concerns, In Studying Student Attrition. Edited by Ernest T. Pascarella. Vol. 36: New Directions for Institutional Research, 1982.

Retention/attrition researchers have generally paid attention to content and predictive validity. There has been need to look at validity--to course/term completion and personal goal attainment.

Lenning, Oscar T., Philip E. Beal and Ken Sauer, Retention and Attrition: Evidence for Action and Research. National Center for Higher Education Management System, 1980.

Most institutions can undertake analyses of student attrition and retention that will produce information useful in meeting student needs and influencing enrollment. Discussion of research implication.

Levitz, Randi and Lee Noel, Keeping Students Sold, Career Training, September 1986.

Student retention efforts is a by-product of student success and satisfaction. The activities of the campuses reflect getting the right person for the right position, and striving to put the most caring and competent teachers and staff in frontline contact positions.

Miller, Myrna R. "Retraining Adults: New Educational Designs for a New Clientele." In Lee Noel (Ed.), Reducing the Dropout Rate. San Francisco: Jossey Bass Inc., 1978.

Programs offered for adult learners must be designed with this group in mind. They experience a variety of constraints, commitments, obligations that prevent them from becoming traditional students. Flexibility include time, location, costs, program length and crediting prior learning.

Mingle, James R. Focus on Minorities: Trends in Higher Education Participation and Success. A Joint Publication of the Education Commission of the States and the State Higher Education Executive Officers, July, 1987.

A comprehensive study of the issues relating to minorities in higher education. Reviews activities on Participation and enrollment, the retention and success and minority representation in the professions.

Moore, James, Edward C. Anderson, R., Marvin W. Lynch, "An Equal Opportunity Program Retention Design." College and University Review, American Association of Collegiate Registrars and Admissions Officers, 1976.

Program goals must receive the endorsement and support of the institution's highest officials and programmatic activities must be consistent with the goals as endorsed, inter-institutional alliances should be formed with targeted potential feeder high schools and community colleges where there

can be cooperative programs and professional exchange. Stresses building on strengths of staff and expressing caring for students.

Noel, Lee. "College Student Retention - A Campus-Wide Responsibility." National ACAC Journal 21 (1976). pp:33-36.

Examines retention as a campuswide responsibility. Identifies the components of a "Staying environment". Drafts recommendations for retention program.

Noel, Lee. "First Steps In Starting A Campus Retention Effort.

The institutions' ability to examine itself is crucial to the improvement of programs for student retention. A method of institutional self-study is presecribed that focuses on recruitment, admission, advising/counseling, monitoring, and the creation of a "staying environment."

Noel, Lee. (Ed.) Reducing the Dropout Rate. San Francisco: Jossey-Bass, 1978.

An action-oriented sourcebook suggesting solutions to retention problems through the mobilization of collective resources already in existence on campus.

Noel, Lee., Randi Levitz, and Diana Saluri (Eds.) Increasing Student Retention. San Francisco: Jossey-Bass, 1985.

A collection of practical, step-by-step guidelines and strategies for improving student retention in higher education institutions. Suggestions cover topics such as commuter students, academically underprepared students, assessment of special needs, and the creation of campus-wide programs that will increase student learning, satisfaction, and retention.

Ott, Linda S. "Admissions Management with the Focus on Retention." In Lee Noel (Ed.) Reducing the Dropout Rate. Sand Francisco: Jossey-Bass, Inc., 1978.

Admissions officers can respond to the imaginative retention strategies being developed on campus by adapting and enhancing on-going operations, programs, and processes.

Pantages, T.J., and C.F. Creedon. "Studies of College Attrition: 1950- 1975." Review of Educational Research. No.48 (1978). pp:49-101.

Summarizes 25 years of research findings. Highlights information useful to colleges concerned about attrition. Suggests campus retention efforts.

Pascarella, Ernest T. (Ed.) Studying Student Attrition. New Directions in Institutional Research. No.36 . San Francisco: Jossey-Bass, December, 1982.

A series of articles addressing issues on student attrition such as theoretical, methodological, and data-analysis, written for institutional research administrators responsible for enrollment management. Topics include: 1) a definition of dropout, 2) conceptual models of student attrition, 3) the selection and measurement off variables, and, 4) designing attrition studies.

Pascarella, Ernest T., and Patrick T. Terenzini. "Patterns of Student-Faculty Informal Interaction Beyond the Classroom and Voluntary Freshman Attrition." Journal of Higher Education. No. 48 (1977).pp: 540-552.

Longitudinal data supports that aspect of Tinto's model which concerns informal student-faculty contact as a predictor of college persistence.

Peng, Samuel S. and William B. Fetters. College Student Withdrawal: A Motivational Problem. Research Triangle Part, North Carolina: Research Triangle Institute, 1977. (ED 148 206).

A study of the withdrawal process among students at two-year and four-year institutions. Data are drawn from the base year and the first and second follow ups of the National Longitudinal Study of the High School class of 1972. Results show that: 1) women students were more likely to withdraw in two-year colleges, 2) white students were more likely to withdraw than black students when other variables were controlled, 3) high shool program, college grades, and educational aspiration account for most variance, 4) financial aid did not have a significant impact on persistence. This study suggests that withdrawal is more a factor of motivation than an economic problem, and that ethnicity has little impact as well.

Pervin, L.A., L.E. Reik, and W. Dalyrimple (Eds.). The College Dropout and Utilization of Talent. Princeton, N.J.: Princeton University Press, 1966.

Conference papers address such topics as personal aspects of dropping out, environment, later success of dropouts, readmission, clinical observations, and research on attrition. Presents general and specific conclusions.

Pitcher, R.W., and B. Blaushild. Why College Students Fail. New York: Funk and Wagnalls, 1970.

Identified primary causes of failure in college. Presents practical means of recovering from failure. Information collected from Educational Development Center.

Persell, Caroline H. Education and Inequality: The Roots and Results of Stratification in America's Schools.. New York: The Free Press, 1977.

The relationship between the educaitonal system and the socioeconomic position of individuals in the American society is examined. The writer contends that the educational system serves to perpetuate social inequalities. It relies heavily on Weber and Marx, the thesis being that society's structure of dominance is related to educational outcomes.

Pettigrew, Thomas F. "The Effects of the Bakke Decision: An Initial Look." In Bakke, Weber and Affirmative Action. Working Papers from a Rockefeller Foundation Conference, July 12-13, 1979. New York: The Rockefeller Foundation, 1979.

This paper presents the results of a survey conducted among 381 undergraduate and graduate programs in order to assess the effects of Bakke on minority admissions in higher education. The author identifies three revealing findings: 1) affirmative action efforts to enroll minority students are not as extensive as their opponents fear and their proponents wish; 2) admissions requirements have not been lowered by affirmative action activities; 3) special recruitment efforts by institutional programs do lead to increased minority participation.

Richardson, R.C. Jr, and Bender, L.W. Fostering Minority Student Access and Achievement in Higher Education. San Francisco: Jossey-Bass, 1987.

This book is basd on two related studies of public community colleges and universities and their Hispanic and black student populations. Chapters 2 through 8 are based on a series of case studies of eight urban centers from January 1984 to November 1985 and a 1984 survey of students who successfully transferred from a community college to a public university. These chapters cover the barriers between community colleges and universities, the community college's role and the state's role in educating minority students, problems in transition to urban universities, expectations of community college students, and suggestions for improving transfer programs and practices. Chapters 1,9 and 10 are based on a study in progress of ten universities with above-average records for graduating minority students. These chapters analyze the problem of low minority enrollment in baccalaureate programs, assess articulation and transfer policies, and make recommendations for helping minority students attain degrees.

Rootman, Irving. "Voluntary Withdrawal From a Total Adult Socialization Organization: A Model." Sociology of Education, 1972, 45. pp:258-270.

Peer support in a collegiate social system is shown to be associated with persistence in college. The article suggests that college dropouts and stopouts perceive themselves as having less social interaction than do persisters.

Rose, James R. "Some Plain Talk on Retention by a College Dean." In Lee Noel (Ed.) Reducing the Dropout Rate. San Francisco: Jossey-Bass, Inc., 1978.

This chapter offers the idea that attitudes of administrators, faculty, and staff toward students can significantly affect an institutions rate of retention. A college dean explores ways of keeping students satisfied and enrolled.

Scott, Robert A. (Ed.) Determining the Effectiveness of Campus Services. New Directions for Insitutional Research. No.47. San Francisco: Jossey-Bass, March, 1984.

Essays on strategies to evaluate the effectiveness of campus personnel and programs. Topics include the impact of self-study, performance of the public relations officer, effectiveness of libraries and coomputing centers, and community partnerships.

Smith, Noel T. and Jack D., Myrna L. Carney, Phylis D. Fontaine. "Student Retention Studies." College and University, 51 (1976).pp:652-654.

This article supports research which suggests that factors such as being from a lower status family contributes to attrition (where ability is held constant).

Spady, W.G. "Dropouts From Higher Education: Toward an Empirical Model." Interchange. 2, No.3 (1971). pp:38-62.

Provides a model which can deal with academic and social systems of the college and link pre-collegiate experiences with later academic and social outcomes. Uses longitudinal data to test the model's utility. Discusses institutional policies.

Stark, J.S. "The Relation of Disparity in Student and Faculty Educational Attitudes to Early Transfer from College." Research in Higher Education. 3 (1975). pp:329-344.

Demonstrates ways of using the Student Orientations Survey to facilitate academic counseling and ways of adapting the curricula-instructional process to reduce attrition.

Summerskill, J. "Dropouts From College." In the American College: A Psychological and Social Interpretation of the Higher Learning. Edited by N. Sanford. New York: Wiley, 1972.

Provides a summary of existing findings on attrition. Outlines deficiencies in our knowledge of the subject.

Terenzini, Patrick T. "Designing Attrition Studies." In Studying Student Attrition. Edited by Ernest T. Pascarella, Vol. 36: New Directions for Institutional Research, 1982.

Some models of institutional research have more to offer than others. The longitudinal study carries with it promise for sufficient information. It must be balanced with costs.

Terenzini, Patrick T. "Studying Student Attrition and Retention." In J.A. Muffo and G.W. McLaughlin (Eds.), A Primer on Institutional Research. Tallahassee, Fla.: Association for Instititutional Research, 1987.

In this article Mr. Terenzini discusses 1) definitions and types of student withdrawal, 2) three basic research designs for gathering student data, 3) strengths and weaknesses of the research designs, and, 4) statistical analyses procedures.

Terenzini, P.T., and Wright, T.M. "Influences on Students' Academic Growth During Four Years of College." In Research in Higher Education. 1987, 26 (No.2). pp:161-179.

Of 1,105 freshmen who attended a summer orientation at a large public research university in the Northeast, 206 completed a questionnaire about their experience during the April of each of the next four consecutive years (high school rank and highest degree planned), academic integration (classroom activities and four faculty-student variables), and social integration (social activities, peer relations, and extracurricular activities) on academic growth each year and on cumulative academic growth from the freshman through the senior year. The annual academic growth measure consisted of the student's ratings of their progress in each of the 29 skill areas and the cumulative academic growth measure consisted of the students' ratings of their overall progress in eight areas (eg. facts, ideas, problem-solving, principles, a particular discipline, interrelationships).

The results revealed that the most important variable in academic integration was the students' perception of the nature and quality of their relationships with faculty members and the frequency of contact with faculty members for social purposes, although the purpose of the latter variable diminished sharply in the senior year. The most important variable for social integration was social activities. The quality of students' peer relations was moderately important in the freshmen and sophomore years and then sharply declined in the junior and senior years. The full structural model revealed that academic skill development affected subsequent academic skill development each year and overall whereas social integration affected academic grwoth only in the junior and senior years. Other results indicated that the students' perception of development was not constant over time, the senior year having the most direct effect on cumulative academic growth.

Tilton, Betty D. The Development and Use of A Computerized Data Base for Monitorizing Student Retention. Tallahassee, Florida: AIR Forum, University of Minnesota, 1979. (ERIC ED 174 097)

The development and maintenance of a computerized data base at Florida State University and its use in monitoring student retention are discussed. In addition to its use in monitoring changes in student retention rates, the retention data base can be used for the following purposes: 1) to assess the impact of policy changes/new programs implemented to decrease student atttrition rates; 2) to identify members of special groups for follow-up surveys; 3) to develop predictor models for student success. Implications: The data base provides the researcher with the capability of studying retention rates for any number of select groups of students.

Tinto, Vincent, "Defining Dropout: A Matter of Perspective." In Studying Student Attrition. Edited by Ernest T. Pascarella. Vol. 36: New Directions for Institutional Research, 1982.

Students leaving an institution are considered "dropout." Not all of these leaving behaviors should be defined as negative, nor do all deserve institutional action. There is great diversity of goals characterizing the intentions of entering students. Some goals are not the same as the institutional goals for degree completion.

Tinto, Vincent, Leaving College: Rethinking the Causes and Cures of Student Attrition. University of Chicago Press, Chicago, 1987.

Focus on two distinctive goals: first to give order to the extensive body of research, and second, what can be done to increase student retention in higher education.

Tinto, "Dropout From Higher Education: A Theoretical Synthesis of Recent Research." Review of Edducational Research. No.45.(1975).pp:89-125.

Uses research findings to fill elements of a model of the processes of dropping out. Examines characteristics of the students and the institution, and describes their interactions. Develops sugggestions for further research.

U.S. National Center for Education Statistics. Withdrawal From Institutions of Higher Education: An Appraisal With Longitudinal Data Involving Diverse Institutions. National Longitudinal Study, William B. Fetters, Project Officer, Washington, D.C.: U.S. Government Printing Office, 1977.

Presents data related to student withdrawal and to later academic, occupational, and personal development of dropouts. Discusses implications of the findings.

Voorhees, Richard A., "Student Finances and Campus-Based Financial Aid: A Structural Model Analysis of the Persistence of High Need Freshmen," Research in Higher Education: Journal of the Association for Institutional Research, Agathon Press, Inc. New York, November 1, 1985, Volume 22, Number 1.

Research indicates that campus-based aid have a significant effect on new freshmen persistence. Noncampus-based aid also has great effect on persistence. High-need freshmen living in university residence halls have better cumulative grade point averages. Involvement in campus activities play a key role in persistence.

Walton, Joseph M. "Retention, Role Modeling, and Academic Readiness: A Perspective on the Ethnic Minority Student in Higher Education." The Personnel and Guidance Journal. October, 1979. pp:124-127.

This article discusses retention, role modeling, and academic readiness as these issues relate to ethnic minority students in higher education. THe central points of the study revolve around the need to stem the unusually high rates of attrition of minority students through academic modeling and recognition of the concept of delayed academic readiness. Methods for implementing a mentor-student program are also suggested.

Washington, K.R. "Special Minority Programs: 'Dupe or New Deal?'" Journal of Afro-American Issues. 5, Winter, 1977. pp:60-65.

Attrition rates suggest that special programs for minority students serve the revolving door function. The responsibility fro moving disadvantaged students toward the actualization of their true potential rests equally with the institution, the program administration, and the students. Some factors for successful programs include: 1) institutional commitment, 2) strong program leadership, 3) support services, 4) financial aid, and 5) student commitment.

Zanoni, Candido P. The 1979-80 General College Retention Program, Final Report: Pilot Education Programs. Minneapolis: University of Minnesota, 1980. (ERIC ED 195 212)

Retention efforts at the University of Minnesota during the 1979-80 academic year are described. The subject of this report is the Pilot Education Program (PEP) which comprises three parallel but distinct packages to serve American Indians, Chicano/Latino, and Black students. Packages are designed to be relevant to charactersistics of the students enrolled.

APPENDIX B

SELECTED REFERENCES ON STUDENT RETENTION

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A Study to Improve Access to Public Higher Education Programs and Services for Minority Students. In response to Hawai'i State Senate Resolution No. 114, S.D.1, 1986. pp.13-17, 21-26.

Aarons, H. "An Evaluation of An Individualized Interpersonal and Interdisciplinarian Team Approach to Remediation at Mohegan Community College." Ed.D.research project, Nova university, 1975, Arlington, Va.: ERIC Document Reproduction Service, ED 115 341.

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Abrahamsson, K. Adult Learners in Post-Secondary Study Programmes: Risk Students or Resource Students. Information on Research and Development for Higher Education, Report No.1979:8. Stockholm: National Swedish Board of Universities and Colleges, 1979.

Adelman, C. Starting With Students. A report prepared for the National Commission on Excellence in Education. Washington, D.C.: National Institute of Education, 1984.

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Aitken, N.D. "College Student Performance, Satisfaction and Retention: Specification and Estimation of a Structural Model." Journal of Higher Education. 53 (No.1 1982) pp.32-50.

Albino, J.E. "Sex Differences on Factor Dimensions Related to Withdrawing from College." Paper presented at the annual convention of the American Educational Research Association (AERA), New Orleans, 19 April, 1973.

Alfert, E. "Housing Selection, Need Satisfaction, and Dropout from College." Psychological Reports, 19 (August 1966). pp.183-86.

Alfred, R.L. (Ed.) Student Attrition: Strategies for Action. Kansas City, MO: Metropolitan Junior College District, 1973.

Alfred, R.L. "A Conceptual Investigation of Student Attrition in the Comprehensive Community College." Paper presented at the annual convention of the AERA, Chicago, April, 1974.

Almquist, E.M., S.S. Angrist. "Role Model Influences on College Women's Career Aspirations." Merrill-Palmer Quarterly of Behavior and Development 17 (July 1971). pp.263-79.

Alu Like Inc. A Report on Mental Health and Substance Abuse Among the Native Hawaiian Population. Honolulu, HI. 1979.

Alu Like Inc. Native Hawaiian Vocational Education Program Needs Assessment Report: Phase 1. Honolulu, HI. 1987_

American College Testing Program. Withdrawing/Nonreturning Student Survey. Iowa City, Iowa: American College Testing Program, 1979.

American Council on Education. Minorities in Higher Education. Washington, D.C. 1986.

American College Testing Service. "Why Students Stay, Why They Leave, What Makes the Difference." Workbook provided with ACT Retention Strategies Program. Iowa City, Iowa, 1978.

Anderson, E."Chip". "Forces Influencing Student Persistence and Achievement." In L. Noel, R. Levitz, D. Saluri (Eds.), Increasing Student Retention. San Francisco: Jossey-Bass, 1987. pp.448-467.

Anderson, E. "A Retention Design Applied To An Equal Opportunity Program." In Reducing The Dropout Rate: New Directions for Student Services, Noel, L. (Ed.). San Francisco: Jossey-Bass. No.3, 1978.

Anderson, L.O. "Small Rural High Schools and College Completion." Journal of College Student Personnel, 15 (May 1974). pp.191-93.

Anderson, J.F., D.T. Mathieu, and A.H. Kreuger. "Non-Matriculation: A Follow Up Study of Prospective College Students Who Were Accepted for Admission But Did Not Enroll." National ACAC Journal. 18, No.3 (1973). pp.16-20.

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Appel, V.H. et al. Impact of Administrative Climate, Instruction, and Counseling on Control Expectancy, Anxiety and Completion Rate of Post-Secondary Educationally Disadvantaged and Minority Vocational/Technical Students: Final Report. Austin, Texas: Department of Educational Administration, University of Texas, December 1977. As cited in Oscar T. Lenning, Ken Sauer: and Philip E. Beal. Student Retention Strategies, p.38 Washington, D.C.: American Association for Higher Education, 1980.

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Astin, A.W. Predicting Academic Performance in College: Selectivity Data for 2,300 American Colleges. New York: Free Press, 1971.

Axtel, D. and A.Coad. A Study of a Sample of Merritt College Students: Reasons Precipitating Withdrawal, and Attitude Toward Services and Instruction. No.11. Oakland, CA.: Northern California Community Colleges Research Group, 1979. (ED 186 047)

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APPENDIX C

RETENTION PRACTICES AT UH COMMUNITY COLLEGES

Under the conditions of the work agreement, the University of Hawai'i Office of the Chancellor agrees that it will complete the work under Item # 14, in an expeditious manner. Specifically , the Office shall assist each campus in conducting and summarizing the status of each of twenty variables believed to affect student retention.

1. Student recruitment
2. Orientation to campus environment
3. Placement testing
4. Long-range career planning
5. Educational Planning and program selection
6. Couse selection and placement
7. Course load determinations
8. Remedial education opportunities
9, Financial aid programs and services
10. Learning-preferences and teaching method congruence
11. Tutoring and peer counseling
12. Extracurricula career counselling
13. Out-of-class interactions with faculty
14. Institutional responsiveness to complaints and major needs
15. Familty and community involment in college affairs
16. Career exploration
17. Staff development programs and service
18. Frequency of reviewing student perfomance and needs
19. Frequency of student use of personnel and academic support services
20. Peer group relations

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